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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/214,708	01/11/99	ITANO	M XI/P6217US0

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IM22/0823

EXAMINER

SMETANA, J	
ART UNIT	PAPER NUMBER

1746
DATE MAILED:
08/23/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Advisory Action	Application No.	Applicant(s)
	09/214,708	ITANO, MITSUSHI
	Examiner Jiri F. Smetana	Art Unit 1746

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

THE REPLY FILED 10 August 2001 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) The period for reply expires 3 months from the mailing date of the final rejection.
- b) The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

- 1. A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
- 2. The proposed amendment(s) will not be entered because:
 - (a) they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) they raise the issue of new matter (see Note below);
 - (c) they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____.

- 3. Applicant's reply has overcome the following rejection(s): _____.
- 4. Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
- 5. The a) affidavit, b) exhibit, or c) request for reconsideration has been considered but does NOT place the application in condition for allowance because: Please see attachment.
- 6. The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
- 7. For purposes of Appeal, the proposed amendment(s) a) will not be entered or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: _____.

Claim(s) withdrawn from consideration: _____.

- 8. The proposed drawing correction filed on _____ is a) approved or b) disapproved by the Examiner.

- 9. Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

- 10. Other: _____.

ADVISORY ACTION - ATTACHMENT

Remarks

1. Amendment C, Paper No. 13, has been entered.
2. Applicant agrees with Examiner that cleaning is a type of plasma etching, but that it is totally different from the usual etching because ions are not given any energy in the plasma and only free radicals conduct isotropic etching by chemical reactions. However, Gabric et al., U.S. Patent No. 5,281,302, discloses that the cleaning gas is an etching gas wherein a plasma is generated with by activation with electrodes (column 1, line 63 - column 2, line 6). Whether the reaction is or is not strictly "chemical" is of no significance because the disassociation of molecules into respective ionic species is in itself a "chemical" reaction. Further, the energy to activate the etching gas is continuously applied to the electrodes in the chamber until the desired results are obtained with the etching/cleaning plasma gas. Therefore, ions are given energy in the plasma.
2. Applicant argues that the target in plasma etching is a wafer and that the target in plasma cleaning is the chamber itself. This argument carries no weight. Gabric clearly recites that plasma cleaning of a CVD chamber is done by plasma etching, wherein "etching" and "cleaning" occur concurrently (column 1, lines 6-11, 59-62). Further, Applicant admits that the target in "etching" is mainly SiO₂ (page 2, line 9) and that the target in "plasma cleaning" is also SiO₂ (page 2, line 22). In response to this admission, there is no difference between a target in "etching" or a target in "plasma cleaning" because they are both composed of the same material/substance.

3. Applicant argues that unsaturated fluorocarbons have been traditionally used for etching because they are more likely to form cations such as CF_3^+ , CF_2^+ , and CF^+ , whereas a cleaning species is a fluorine free radical (F^-). However, since both cations and fluorine free radicals are present in the CVD chamber, both "etching" and "plasma cleaning" take place at the same time, as supported by Gabric. Applicant fails to provide anywhere in the specification or claims any sort of process parameters such as flow rate, temperature, concentrations, etc., or any limitations that the chamber "plasma cleaning" is a result of fluorine free radicals (F^-).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiri F. Smetana whose telephone number is (703)605-1173. The examiner can normally be reached on Monday-Friday (7:30am-4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (703)608-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-7718 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Jiri F. Smetana
Patent Examiner
Art Unit 1746

jfs
August 20, 2001



RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
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